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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/574,926

06/21/2006

Kim S. Petersen

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06/26/2008

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EXAMINER

MONIKANG, GEORGE C

ART UNIT

PAPER NUMBER

2615

MAIL DATE

DELIVERY MODE

06/26/2008

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/574,926	<b>Applicant(s)</b> PETERSEN, KIM S.	
	<b>Examiner</b> GEORGE C. MONIKANG	<b>Art Unit</b> 2615	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 17 March 2008.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☐ Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-9 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☒ Certified copies of the priority documents have been received in Application No. 10/574,926.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>4/7/2006</u> .  | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Response to Amendment***

1. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

### ***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

3. Claims 1 & 8-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Krokstad et al, US Patent 5,276,739, in view of Kanamori et al, US Patent 6,639,986 B2. (The Krokstad et al reference is cited in IDS filed 4/7/2006)

Re Claim 1, Krokstad et al discloses a method for processing the signals from two or more microphones (*Krokstad, abstract*) in a listening device which has a casing holding the microphones (*Krokstad, fig. 2: m1 & m2*), and which further comprises a signal processing unit which is to provide an output signal in correspondence with the microphone signals (*Krokstad, fig. 5a: DSP; abstract*) and suited to the user's hearing whereby a receiver unit for delivering the output signal to the user is provided (*Krokstad, fig. 5a: SG; abstract*); but fails to disclose analyzing the signals from microphones in order to detect when the casing of a device is being touched (*Kanamori et al, col. 16, line 64 through col. 17, line 7: noise microphone detects noise from touch of device and the noise is filtered by the filter*), whereby further the signal processing of the signal processing unit changes whenever touching of the casing is detected from analyzing said microphone signals (*Kanamori et al, col. 16, line 64 through col. 17, line 7: noise microphone detects noise from touch of device and the noise is filtered by the filter*).

Taking the combined teachings of Krokstad et al and Kanamori et al as a whole, one skilled in the art would have found it obvious to modify the method for processing the signals from two or more microphones (*Krokstad, abstract*) in a listening device which has a casing holding the microphones (*Krokstad, fig. 2: m1 & m2*), and which further comprises a signal processing unit which is to provide an output signal in correspondence with the microphone signals (*Krokstad, fig. 5a: DSP; abstract*) and suited to the user's hearing whereby a receiver unit for delivering the output signal to the user is provided (*Krokstad, fig. 5a: SG; abstract*) of Krokstad et al with analyzing the signals from microphones in order to detect when the casing of a device is being touched (*Kanamori et al, col. 16, line 64 through col. 17, line 7: noise microphone detects noise from touch of device and the noise is filtered by the filter*), whereby further the signal processing of the signal processing unit changes whenever touching of the casing is detected from analyzing said microphone signals (*Kanamori et al, col. 16, line 64 through col. 17, line 7: noise microphone detects noise from touch of device and the noise is filtered by the filter*) as taught in Kanamori et al to be able to suppress noise caused by touching of a device.

Claim 8 has been analyzed and rejected according to claim 1.

Re Claim 9, the combined teachings of Krokstad et al and Kanamori et al disclose the listening device as claimed in claim 8, including a sound generator for generating a specific sound when touched at the casing, such that a user may touch the sound generator whenever user input to the hearing aid is desirable (*Krokstad et al, col.*

12, lines 44-61: different functions determines what kind of sound the user hears depending on the environment).

1. Claims 2-5 & 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Krokstad et al, US Patent 5,276,739 and Kanamori et al, US Patent 6,639,986 B2 as applied to claim 1 above, in view of Arcos et al, US Patent 5,396,560. (The Arcos et al reference is cited in IDS filed 4/7/2006)

Re Claim 2, Krokstad et al and Kanamori et al disclose the method as claimed in claim 1, but fail to disclose whereby short term energy in the signals from the microphones is determined, and where further change in difference over time in short term energy between the microphone signals is determined. However, Arcos et al does (Arcos et al, col. 3, lines 23-53).

Taking the combined teachings of Krokstad et al, Kanamori et al and Arcos et al as a whole, one skilled in the art would have found it obvious to modify the method of Krokstad et al and Kanamori et al with whereby short term energy in the signals from the microphones is determined, and where further change in difference over time in short term energy between the microphone signals is determined as taught in Arcos et al (Arcos et al, col. 3, lines 23-53) to integrate the microphone signals.

Re Claim 3, the combined teachings of Krokstad et al, Kanamori et al and Arcos et al disclose the method as claimed in claim 2, whereby time related change in difference in the short term energy content in the microphone signals is used to

determine the rate of change in difference between the short term energy of the microphone signals (*Arcos et al, col. 3, lines 23-53*).

Re Claim 4, the combined teachings of Krokstad et al, Kanamori et al and Arcos et al disclose the method as claimed in claim 2, whereby a value in the signal processing unit is changed whenever the rate of change in difference in the short term energy between the microphone signals reaches a pre-selected level in order to indicate that the casing is being touched (*Arcos et al, col. 3, lines 23-53: acoustical power which does not significantly change over time for about 10 secs could be set time level of touching the case to enact a change in the signal processing*).

Re Claim 5, the combined teachings of Krokstad et al, Kanamori et al and Arcos et al disclose the method as claimed in claim 3, whereby a microphone matching procedure is temporarily interrupted whenever it is determined that the casing is being touched (*Krokstad et al, col. 12, lines 44-61*).

Re Claim 7, the combined teachings of Krokstad et al and Arcos et al disclose the method as claimed in claim 3, whereby a lasting change in the signal processing is effected whenever it is determined that a non-accidental touch of the casing has occurred (*Kanamori et al, col. 16, line 64 through col. 17, line 7*).

2. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Krokstad et al, US Patent 5,276,739, Kanamori et al, US Patent 6,639,986 B2 and Arcos et al, US Patent 5,396,560 as applied to claim 3 above, further in view of Le Bel, US Patent 6,307,482 B1.

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3. Re Claim 6, the combined teachings of Krokstad et al, Kanamori et al and Arcos et al disclose the method as claimed in claim 3, but fails to disclose whereby the output signal to the user is temporarily attenuated whenever it is determined that the casing is being touched. However, Le Bel does (*Le Bel, col. 3, lines 29-47: minimizing noise*).

4. Taking the combined teachings of Krokstad et al, Kanamori et al, Arcos et al and Le Bel as a whole, one skilled in the art would have found it obvious to modify the method of Krokstad et al, Kanamori et al and Arcos et al with whereby the output signal to the user is temporarily attenuated whenever it is determined that the casing is being touched as taught in Le Bel (*Le Bel, col. 3, lines 29-47: minimizing noise*) to minimize the noise level caused by the touching of the device.

### **Contact**

Any inquiry concerning this communication or earlier communications from the examiner should be directed to GEORGE C. MONIKANG whose telephone number is (571)270-1190. The examiner can normally be reached on M-F. alt Fri. Off 7:30am-5:00pm (est).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chin Vivian can be reached on 571-272-7848. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.



Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/George C Monikang/  
Examiner, Art Unit 2615

6/11/2008

**/Vivian Chin/**  
**Supervisory Patent Examiner, Art Unit 2615**